

**FACT SHEET STATEMENT OF BASIS  
WESTERN ENERGY OPERATING, LLC - ASHLEY VALLEY FACILITY  
UPDES PERMIT NO. UT0000035  
MINOR INDUSTRIAL RENEWAL PERMIT**

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**DESCRIPTION OF FACILITY:**

Western Energy Operating, LLC (WEO) operates the Ashley Valley oil field facility located in Uintah County near Jensen, Utah. The facility centroid is located at latitude N 40°21'58.6" and longitude W 109°25'7.3". The Ashley Valley lease site is currently one of three oil production facilities that were originally constructed in the 1970's. Since 2006, all three facilities have been owned and operated by WEO and all three are located in the same general vicinity of each other and classified with Standard Industrial Classification (SIC) code 1311 for *crude petroleum and natural gas extraction*. Under normal operations the facility continuously discharges effluent, which is basically groundwater produced from the oil extraction activities pumped from nearby oil wells. The produced water is treated by both mechanical and gravity oil & water separation along with 3 retention ponds in series for settling purposes. There is also a skim pit just prior to the second pond that can be utilized to remove residual petroleum product from the produced water if necessary. The final effluent discharge is from a culvert leaving the third retention pond, which flows into the Union Irrigation Canal and is tributary to the Green River.

**DESCRIPTION OF DISCHARGE:**

WEO has been reporting self-monitoring results on Discharge Monitoring Reports (DMR) on a quarterly basis. A summary of the last 3 years of data, which revealed no violations, is attached.

<u>Outfall</u>	<u>Description of Discharge Point</u>
001	18" culvert leaving the third retention pond located at latitude N 40°22.007' and longitude W 109°24.887".

**RECEIVING WATERS AND STREAM CLASSIFICATION**

The discharge flows into the Union Irrigation Canal, where it mixes with water diverted from Ashley Creek and subsequently used for nearby agricultural practices. During high runoff events and non-irrigation months, the discharge likely reaches the Green River via the Union Irrigation

Canal. The receiving waters are designated as follows:

Union Irrigation Canal - Class 4; Green River - Class 2B, 3A and 4

- Class 2B      -protected for boating, water skiing, and similar uses, excluding recreational bathing (swimming).
- Class 3A      -protected for cold water species of game fish and other cold water aquatic life, including the necessary aquatic organisms in their food chain.
- Class 4        -protected for agricultural uses including irrigation of crops and stock watering.

**SUBSTANTIVE PERMIT CHANGES**

The only change being proposed in this renewal permit is the removal of quarterly biomonitoring requirements as discussed in the Biomonitoring Requirements section of this document. All other permit limitations and requirements remain unchanged.

**BASIS FOR EFFLUENT LIMITATIONS**

Applicable technology based standards for oil and gas extraction are found in *40 CFR 435, Subpart E*, which includes an effluent limitation of 35 mg/L for oil & grease. This oil & grease concentration limit has not been utilized previously; instead the more stringent effluent limitation of 10 mg/L and a “no visible sheen” requirement are based on the permitting authority’s best professional judgment (BPJ) and EPA’s Anti-Backsliding Policy, which has been consistent with similar discharge permits in Utah. The biochemical oxygen demand (BOD<sub>5</sub>), pH, and total suspended solids (TSS) limits are based on current Utah Secondary Treatment Standards, *Utah Administrative Code (UAC) R317-1-3.2*. The effluent flow limitation was included during the previous permit renewal based upon BPJ, in the absence of a specified design flow, and remains a part of this permit renewal as well.

Discharges from WEO may eventually reach the Colorado River, which place it in the guidance of the Colorado River Basin Salinity Control Forum (CRBSCF) for total dissolved solids (TDS) mass loading limitations, which is authorized in *UAC R317-2-4* to further control salinity in the Utah portion of the Colorado River Basin. On February 28, 1977 the CRBSCF produced the “*Policy For Implementation of Colorado River Salinity Standards Through the NPDES Permit Program*” (Policy), with the most current subsequent triennial revision dated October 2008, which states that if a no-salt (i.e., no-TDS) discharge cannot be achieved, then the facility is limited to discharging one-ton per day of TDS unless a demonstration is made that it is not economically feasible and/or practicable to do so. WEO’s TDS discharge exceeds the one ton

per day loading limitation guideline as set by the CRBSCF, therefore a cost analysis of alternative plans was prepared in response to the 1977 Policy and was completed in 1987. The analysis indicates that a zero discharge (no-salt) or one-ton per day discharge of TDS is not economically feasible or practical considering the low production yields of the extraction system. As the State permitting authority for the CRBSCF Policy, Utah Division of Water Quality staff reviewed the 1987 demonstration as submitted and concurs that the demonstrated exemption to the Policy is still applicable since production trends have been decreasing over time. The TDS concentration limit has been in place for many years based upon past performance of the facility and BPJ to be consistent with the other 2 WEO discharge permits, which also maintain the same TDS limitations. The TDS is naturally occurring in the produced water and the facility does not do anything to increase the TDS, nor does the facility treat the effluent for TDS prior to discharge.

Based on effluent monitoring data from the existing treatment facility, the permittee is expected to be able to continue to comply with the limitations presented below.

Effluent Limitations				
Parameter	Monthly Average	Maximum Weekly Average	Daily Minimum	Daily Maximum
BOD <sub>5</sub> , mg/L	25	35	NA	NA
TSS, mg/L	25	35	NA	NA
Oil & Grease, mg/L	NA	NA	NA	10
pH, Standard Units	NA	NA	6.5	9.0
TDS, mg/L	NA	NA	NA	2200
Flow, MGD	1.5	NA	NA	Report

NA = not applicable, MGD = million gallons per day

### **WASTE LOAD ANALYSIS AND ANTIDegradation REVIEW**

Effluent limitations are also derived using a waste load analysis (WLA), which is appended to this statement of basis as ADDENDUM. The WLA incorporates Secondary Treatment Standards, Water Quality Standards, Antidegradation Reviews (ADR), as appropriate and designated uses into a water quality model that projects the effects of discharge concentrations on receiving water quality. Effluent limitations are those that the model demonstrates are sufficient to meet State water quality standards in the receiving waters. During this UPDES renewal permit development, a WLA and ADR were performed. The WLA resulted in a Finding of No Significant Impact – Negative Declaration. An ADR Level I review was performed and

concluded that an ADR Level II review was not required. The WLA indicates that the effluent limitations should be sufficiently protective of water quality, in order to meet State water quality standards in the receiving waters. The discharge was evaluated and determined not to cause a violation of State Water Quality Standards in downstream receiving waters.

### **SELF-MONITORING AND REPORTING REQUIREMENTS**

The following effluent self-monitoring and reporting requirements are based on the *Utah Monitoring, Recording and Reporting Frequency Guidelines* as effective December 1, 1991. Reports shall be made on Discharge Monitoring Report (DMR) forms, and are due 28 days after the end of each quarter.

Self-Monitoring and Reporting Requirements			
Parameter	Frequency	Sample Type	Units
Total Flow	Quarterly	Measured	MGD
BOD <sub>5</sub>	Quarterly	Grab	mg/L
TSS	Quarterly	Grab	mg/L
Oil & Grease	Quarterly	Grab	mg/L
PH	Quarterly	Grab	SU
TDS	Quarterly	Grab	mg/L

### **STORM WATER REQUIREMENTS**

According to Utah Administrative Code (UAC) R317-8-3.9 this facility will not be required to maintain coverage under the UPDES multi-sector general permit for discharges associated with industrial activity, permit number UTR000000, sector I (Oil and Gas Extraction, SIC Major Group 13), because storm water will not come in contact with or be contaminated by any overburden, raw material, intermediate product, finished product, by product, or waste product located at the site of the operation.

### **PRETREATMENT REQUIREMENTS**

This facility does not discharge process wastewater to a sanitary sewer system. Any process wastewater that the facility may discharge to the sanitary sewer, either as a direct discharge or as a hauled waste, is subject to federal, state, and local pretreatment regulations. Pursuant to section 307 of the Clean Water Act, the permittee shall comply with all applicable federal general pretreatment regulations promulgated, found in 40 CFR 403, the state's pretreatment

requirements found in UAC R317-8-8, and any specific local discharge limitations developed by the Publicly Owned Treatment Works (POTW) accepting the waste.

### **BIOMONITORING REQUIREMENTS**

As part of a nationwide effort to control toxic discharges, biomonitoring requirements are being included in permits for facilities where effluent toxicity is an existing or potential concern. In Utah, this is done in accordance with the State of Utah's "*UPDES Permitting and Enforcement Guidance Document for Whole Effluent Toxicity (WET) Control (Biomonitoring)*, Division of Water Quality, March 1999." Authority to require effluent biomonitoring is provided in UAC R317-8, *Utah Pollutant Discharge Elimination System* and UAC R317-2, *Water Quality Standards*.

A review of the permit file, DMR forms and Acute WET laboratory data as submitted, reveals that quarterly Biomonitoring has been conducted since being incorporated into the discharge permit in May 2004 with no reported failures or toxicity from the results of the Acute WET testing. A provision in the existing permit allows for a reduction and/or elimination of the Biomonitoring requirements upon successful Acute WET testing, with no reported failures or toxicity, for at least the first year of the permit cycle (i.e., 2004-2005). Currently the permittee has conducted 18 consecutive quarterly Acute WET tests as required with no reported failures or toxicity issues.

In addition, the result of the WLA was a Finding of No Significant Impact – Negative Declaration, as previously described. Based on these considerations, and that the WEO facility is not classified as a major or a significant minor facility, there is no reasonable potential for toxicity in the facility's discharge (*per State of Utah's UPDES Permitting and Enforcement Guidance Document for WET Control*). As such, there will be no numerical WET limitations or WET monitoring requirements in this permit. However, the permit will contain a toxicity limitation re-opener provision that allows for modification of the permit at any time in the future should additional information indicate the presence of toxicity in the discharge.

### **PERMIT DURATION**

It is recommended that this permit be effective for a duration of five (5) years.

Drafted by  
Jeff Studenka, Environmental Scientist  
Utah Division of Water Quality  
Drafted on January 12, 2009